

**FACT SHEET FOR NPDES PERMIT WA-003046-5**

**AAA MONROE ROCK CORPORATION**

<b>GENERAL INFORMATION</b>	
Applicant	AAA Monroe Rock Corporation
Facility Name and Address	AAA Monroe Rock Corporation 15421 166 <sup>th</sup> Street SE Snohomish, WA 98290
Type of Facility	Crushed and Broken Stone
SIC Code	1429
Discharge Location	Waterbody name: Stream Bypass Latitude: 47° 50' 55" N Longitude: 122° 01' 15" W
Water Body ID Number	WA-07-1020

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*AAA MONROE ROCK CORPORATION*

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## **INTRODUCTION**

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

## **BACKGROUND INFORMATION**

### *DESCRIPTION OF THE FACILITY*

#### **INDUSTRIAL PROCESS**

The AAA Monroe Rock Corporation site is located just west of Monroe on 166<sup>th</sup> Street (Olson Road). The total site is approximately 300 acres in size (including DNR land). The disturbed or cleared areas are about 63 acres in size which includes the active mining area, processing areas, screening, washing, crushing, equipment areas, stock pile areas, road and access areas. The remaining 237 acres is heavily forested.

#### **DISCHARGE OUTFALL**

Stormwater runoff is pumped from the pit to the presettling ponds just east of the active mining area. Stormwater flows to a series of settling or interceptor ponds catch basins and ditches leading to a flocculating site where alum is added. Stormwater then flows to what is called the

primary treatment trench (see attached schematic) leading to Ponds A-1 overflowing to A-2. A second flocculating site is located between the discharge from Pond A-2 and Pond C-1 and C-2. Pond A-3 is vegetated and not utilized. The treated stormwater discharges to the stream bypass from Pond C-3. This stream passes through the property, which bypasses the active locations of the mine. This stream then joins French Creek, which is a tributary to the Snohomish River to the north. Ponds B-1, B-2, B-3 and B-4 are termed surge ponds receiving stormwater when flows exceed 26 cubic feet per second. The point of compliance with the receiving water turbidity limit is upstream and downstream of the point discharge from pond C-3 to the onsite stream, which has been routed to by-pass the active mining area to avoid contamination. If the onsite stream flow is zero then the background turbidity is zero and the discharge can not exceed 5 NTU. This onsite stream discharges to French Creek, a tributary to the Snohomish River.

#### *PERMIT STATUS*

The previous permit for this facility was issued on June 28, 1993. The previous permit placed effluent limitations on Total Suspended Solids, pH, turbidity, and oil and grease.

<b>Parameter</b>	<b>Daily Average</b>	<b>Daily Maximum</b>
Total Suspended Solids	25 mg/L	45 mg/L
pH	Within the Range of 6.5 to 8.5	
Turbidity	Turbidity in the receiving water shall not exceed 5 nephelometric turbidity units (NTU) over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU	
Oil and Grease	10 mg/L	15 mg/L

An application for permit renewal was submitted to the Department on April 16, 1998, and accepted by the Department on April 20, 1998.

#### *SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT*

The facility last received an inspection on June 2, 1998.

The ponds short circuit during heavy rains. Sediment is removed from the ponds once per year. Pond short circuiting is an indication of improper maintenance in violation of Condition G2 requiring Fiorito Brothers at all times to properly operate and maintain all facilities and systems of collection, treatment and control which are installed or used for pollution control. This is a violation of G2 even if the effluent limitation is achieved. The once per year sediment removal of the ponds is probably inadequate if the design residence time for settlement is reduced resulting in short circuiting.

Sampling is conducted after 2 days of heavy rain to allow the discharge to clear. Because turbidity violations are apparent visually, avoiding sampling until the discharge clears two days after a rainfall is an act of omission, which abets violations of the turbidity effluent limitation.

The unlined impoundment beneath the chemical storage shed was filled with petroleum. Fuel spills were observed around the diesel storage and fueling area. Diesel was observed on the ground in an approximately six foot diameter area. Waste paint was stored in the open uncontained and uncovered. A 55 gallon barrel and two open 5 gallon buckets (having contained a petroleum based product) were observed as being located outside of the oil storage shed and exposed to the elements. Oil contamination was identified at this site January 25, 1977; August 11, 1981; January 14, 1991; March 2, 1992; November 20, 1992; January 6, 1994; and June 2. AAA Monroe Rock failed to store liquid products in the lubrication storage shed in impervious containment structures and to store waste materials in a manner which will prevent the inadvertent entry into ground waters of the state as required under Special Condition S7.A.1 of the permit.

A Notice of Penalty was issued on July 31, 1998, for failure to immediately notify the Department of Ecology of the accidental discharge onto land with a potential for entry into groundwater as required by Special Condition S7.E. of the permit, failure to submit a follow-up written report within 24 hours as required by Special Condition S7.E. and General Condition G4; failure to obtain a grab sample immediately and daily for the continuing discharge of oil to ground water as required by Special Condition S7.E.; failure to commence cleanup efforts immediately taking precedence over normal work in as required by Special Condition S7.E.1.; and failure to store liquid products at the diesel fueling station in impervious containment structures which will prevent the inadvertent entry into ground waters of the state by overfilling tipping or rupture as required under Special Condition S7.A.

Background turbidity was measured upstream of the stream bypass at 2.5 nephelometric turbidity units (NTU) and downstream at 450 NTUs in Notice of Violation issued on May 29, 1996, violating the 5 NTU over background state standard.

A Notice of Violation and a Notice of Penalty were issued on May 13, 1992, for failure to comply with sampling requirements for total suspended solids, for failure to meet effluent limitations for total suspended solids, and for failure to report correctly.

A Notice of Violation and a Notice of Penalty were issued on March 8, 1991, for exceedences of permit limitations for turbidity and total suspended solids.

#### *WASTEWATER CHARACTERIZATION*

The proposed wastewater discharge is characterized for the following regulated parameters based on the last 18 monitoring reports:

**Table 1: Wastewater Characterization**

<b>Parameter</b>	<b>Concentration</b>	
Turbidity	18 NTU	
Oil and Grease	<1 PPM in all of last 18 reports	
Total Suspended Solids	Average 7.2 mg/L	Average of Maximum reported values 9.0 mg/L

## **PROPOSED PERMIT LIMITATIONS**

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology.

### *TECHNOLOGY-BASED EFFLUENT LIMITATIONS*

The effluent limits for TSS in the current permit have been achieved without any exceedence in the last 18 reporting periods and is the categorical limit for the industrial sand subcategory. AKART for TSS is again determined to be 25 mg/L daily average and 45 mg/L daily maximum.

Control to the turbidity surface water criteria in Condition S1. is determined to be AKART. Turbidity is caused by light diffraction from the smallest lightest fraction of solids. This sized particle requires the longest residence time for settling and is the most difficult to control. If turbidity is controlled all solids will be controlled at least as efficiently. No more stringent effluent limit has been established for similar sources including the TSS limit. Therefore, TSS limits and monitoring will not be required.

Maximum daily turbidity limits for all sand and gravel and crushed and broken stone mines under the Sand and Gravel General permit is 50 NTU and has been achieved. The Department determines 50 NTU is also AKART.

Mud carryout from the mine covers 160<sup>th</sup> Street. During the inspection a water truck applied water as a palliative to reduce fugitive dust emissions from not only the unpaved mine roads but also from the public street. Best management practices for the sand and gravel industry results in no mud or dirt carry out past the property boundary. Dirt on the road will ultimately end up in the roadside ditches which are waters of the state. AAA Monroe Rock is not meeting the same level of controls similar facilities have achieved for preventing solids and turbidity contamination of waters of the state. AAA Monroe Rock should install a wheel wash other method of elimination of mud carryout as similar sand and gravel mines have installed years ago.

The Department determines AKART and best management practices are no mud carryout past the plant boundary.

AAA Monroe Rock has achieved less than 1 ppm oil and grease discharge at this site. Within the last 18 reporting periods only less than 1 ppm oil and grease has been measured. Therefore the Department determines AKART for oil and grease is less than 5 ppm. However, oil and grease is a measure of fats and animal greases. A more accurate and appropriate parameter and method is total petroleum hydrocarbons and, in particular, Total Petroleum Hydrocarbons Diesel Extended (WTPHDx). This method measures heavier oils applicable to potential spills or leaks of the diesel fuel, lubricating oil and hydraulic fluid used in equipment at AAA Monroe Rock. Therefore, a limit of 5 ppm WTPHDx is determined to be AKART.

#### *SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS*

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

#### NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

#### NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

#### NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.



#### ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

#### CRITICAL CONDITIONS

Surface water quality-based limits are derived for the water body's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

#### MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

A mixing zone has not been granted for this site because the receiving water is a small stream that does not allow for the practical application of mixing zone models. The turbidity limit in the previous permit remains in this permit.

#### DESCRIPTION OF THE RECEIVING WATER

The facility discharges to the stream bypass from Pond C-3. This stream passes through the property, which bypasses the active locations of the mine. This stream then joins French Creek which is a tributary to the Snohomish River to the north, which is designated as a Class A receiving water in the vicinity of the outfall. Other nearby point source outfalls includes Cadman High Rock Sand and Gravel Mine, Cadman Sky River Pit and dairy farms. Significant nearby

non-point sources of pollutants includes residential runoff. Characteristic uses include the following:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

#### SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

pH	6.5 to 8.5 standard units
Turbidity	less than 5 NTU above background
Toxics	No toxics in toxic amounts

#### CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Turbidity--Due to the potential fluctuations in turbidity of the receiving water and the effluent, turbidity monitoring is required to assess compliance with the water quality criteria for turbidity. The criteria for turbidity allows no more than a 5 NTU increase over background turbidity.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

No toxics were determined to be present in the discharge.

Calculations using all applicable data resulted in a determination that there is no reasonable potential for this discharge to cause a violation of water quality standards for toxics. This determination assumes that the Permittee meets the other effluent limits of this permit.

#### WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Chronic toxicity tests measure various sublethal toxic responses such as retarded growth or reduced reproduction. Chronic toxicity tests often involve either a complete life cycle test of an organism with an extremely short life cycle or a partial life cycle test on a critical stage of one of a test organism's life cycles. Organism survival is also measured in some chronic toxicity tests.

In accordance with WAC 173-205-040, the Permittee's effluent has been determined to have the potential to contain toxic chemicals, aluminum sulfate or alum  $[AL_2(SO_4)_3 \cdot (18H_2O)]$ . The proposed permit contains requirements for whole effluent toxicity testing as authorized by RCW 90.48.520 and 40 CFR 122.44 and in accordance with procedures in Chapter 173-205 WAC. The proposed permit requires the Permittee to conduct toxicity testing twice per year in order to characterize the acute toxicity of the effluent.

If acute toxicity is measured during effluent characterization at levels that, in accordance with WAC 173-205-050(2)(a), have a reasonable potential to cause receiving water toxicity, then the Department may set a limit on the acute toxicity and require the Permittee to conduct WET testing in order to monitor for compliance with either an acute toxicity limit, a chronic toxicity limit, or both an acute and a chronic toxicity limit.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC,  $LC_{50}$ ,  $EC_{50}$ ,  $IC_{25}$ , etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*, which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that Permittees send a copy of the acute or chronic toxicity sections(s) of their permits to their laboratory of choice.

## HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge **is unlikely to contain chemicals regulated for human health.**

## SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

#### *GROUND WATER QUALITY LIMITATIONS*

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

The Department believes the Permittee's discharge has the potential to cause a violation of the Ground Water Quality Standards and has imposed the following conditions in the proposed permit: A stormwater pollution prevention plan, effluent limitations and monitoring of groundwater discharges in Condition S1 and S2.

#### *COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED* *June 28, 1993*

Existing Limits	Proposed Limits
Turbidity in the receiving water shall not exceed 5 nephelometric turbidity units (NTU) over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU	Turbidity in the receiving water shall not exceed 5 nephelometric turbidity units (NTU) over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU
TSS Daily Average 25 mg/L Daily Maximum 45 mg/L	Turbidity - 50 NTU
Oil and Grease Daily Average 10 mg/L Daily Maximum 15 mg/L	TPH Daily Maximum 5 mg/L
No visible sheen	No visible sheen
PH 6.5 to 8.5	PH 6.5 to 8.5

#### **MONITORING REQUIREMENTS**

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. Sampling is conducted after 2 days of heavy rain to allow the discharge to clear according to AAA Monroe

Rock. The turbidity limits apply at all times. Since turbidity violations are apparent visually, avoiding sampling until the discharge clears two days after a rainfall is an act of omission which abets violations of the turbidity effluent limitation. The period of maximum turbidity from a quarry site is during heavy rainfall. To eliminate the avoidance of measuring violations and to ensure compliance during worst case conditions sampling will be required within 24 hours of rainfall events of greater than 0.5 inch in a 24 hour period. This will coincide with the required inspections of all on site erosion and sediment control measures. At Snoqualmie Falls 41 qualifying events occurred in 1995, 40 occurred in 1996, 51 occurred in 1997, and 17 occurred through April 1998. Cadman High Rock, Lakeside Industries, D.L.T. Investments, Fred Hill Materials and Fiorito Brothers, Homestead Valley Site, successfully use this sampling schedule.

#### *LAB ACCREDITATION*

With the exception of certain parameters, the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

### **OTHER PERMIT CONDITIONS**

#### *REPORTING AND RECORDKEEPING*

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-220-210).

#### *SPILL PLAN*

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan.

#### *GENERAL CONDITIONS*

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

### **PERMIT ISSUANCE PROCEDURES**

#### *PERMIT MODIFICATIONS*

The Department may modify this permit to impose numerical limitations, if necessary, to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

*RECOMMENDATION FOR PERMIT ISSUANCE*

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued and effective until April 1, 2004, consistent with the permitting cycle for the Snohomish Water Quality Management Area.

## **REFERENCES FOR TEXT AND APPENDICES**

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE.105(E2). (Cited in EPA 1985 op.cit.)

## APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations, which are described in the rest of this fact sheet.

Public notice of application was published on April 24 and May 1, 1998, in *The Herald* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on about November 15 in *The Herald* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator  
Department of Ecology  
Northwest Regional Office  
3190 – 160<sup>th</sup> Avenue SE  
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7201, or by writing to the address listed above.

This permit and fact sheet were written by John Drabek.



## **APPENDIX B--GLOSSARY**

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**AKART**--An acronym for "all known, available, and reasonable methods of treatment."

**Ambient Water Quality**--The existing environmental condition of the water in a receiving waterbody.

**Ammonia**--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation** --The average of the measured values obtained over a calendar month's time.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Compliance Inspection - Without Sampling**--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.)

**Construction Activity**--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings or industrial buildings, and demolition activity.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a waterbody is low, thus, its ability to dilute effluent is reduced.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Major Facility**--A facility discharging to surface water with an EPA rating score of >80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Maximum Daily Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)**--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Minor Facility**--A facility discharging to surface water with an EPA rating score of <80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral and large variations above or below this value are considered harmful to most aquatic life.

**Quantitation Level (QL)**--A calculated value five times the MDL (method detection level).

**Responsible Corporate Officer**--A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

**APPENDIX C--SITE MAP**

**AMMENDMENT TO FACT SHEET  
NPDES PERMIT NO. WA-003046-5  
AAA MONROE ROCK CORPORATION  
January 6, 2000**

AAA Monroe Rock Corporation's National Pollutant Discharge Elimination System permit WA-003046-5 requires completion of a stormwater treatment system to achieve surface water quality criteria for turbidity beginning at permit issuance date of April 1, 1999. AAA Monroe Rock requested a one-year compliance schedule. Treatment is by vegetation, collection, and routing of stormwater and process water, sedimentation, best management practices in erosion control and addition of alum or aluminum sulfate  $\text{Al}_2(\text{SO}_4)_3 \cdot (18\text{H}_2\text{O})$  for flocculation. The 50 nephelometric turbidity units (NTU) effluent limitations is unaffected by this schedule and remains established. The Department is proposing extending the compliance schedule for achievement of the 5 NTU over background surface water criteria to January 5, 2001.

Whole Effluent Toxicity (WET) testing is required twice per year for the five year cycle of the permit. AAA Monroe Rock Corporation requested a reduction to three toxicity tests during the first year unless acute toxicity is measured characterizing the effluent at levels that, in accordance with WAC 173-205-050(2)(a), have a reasonable potential to cause receiving water toxicity. Then the Department may set a limit on the acute toxicity and require AAA Monroe Rock to conduct WET testing in order to monitor for compliance with an acute toxicity limit. The Department is proposing to grant the reduction in monitoring as sufficient to characterize discharges for toxicity.